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Revised Fiscal Note

(replaces fiscal note dated February 18, 2022)

Drafting Number: LLS 22-0346 Date: March 14, 2022
Prime Sponsors: Sen. Woodward Bill Status: Senate Finance
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Bill Topic: ENCOURAGE GEOTHERMAL ENERGY USE

- Summary of Fiscal Impact:
[X] State Revenue [X] TABOR Refund
[X] State Expenditure [X] Local Government
[] State Transfer [] Statutory Public Entity

This bill modifies certain statutory provisions that apply to solar energy so that they also apply to geothermal energy systems. It also directs the Colorado Energy Office to develop basic consumer education materials about leased and purchased geothermal installations. Beginning in FY 2022-23, the bill increases state revenue and expenditures, decreases local government revenue, and increases local government expenditures.

Appropriation Summary: For FY 2022-23, the bill requires an appropriation of \$171,086 to multiple state agencies.

Fiscal Note Status: The fiscal note reflects the introduced bill, as amended by the Senate State, Veterans, and Military Affairs Committee.

Table 1
State Fiscal Impacts Under SB 22-118

Table with 4 columns: Category, Sub-category, Budget Year FY 2022-23, and Out Year FY 2023-24. Rows include Revenue (Cash Funds, Total Revenue), Expenditures (General Fund, Cash Funds, Centrally Appropriated, Total Expenditures, Total FTE), Transfers, and Other Budget Impacts (General Fund Reserve, TABOR Refund).

Summary of Legislation

The bill adds geothermal energy systems to statutory provisions that under current law apply to solar energy systems. Specifically, the bill:

- limits the aggregate charges assessed by state or local government to install geothermal systems;
- specifies that geothermal equipment is a type of pollution control device that may be certified as pollution control equipment;
- includes geothermal systems in the definition of projects that may be funded through county or municipal revenue bonds;
- permits a county board of commissioners, regional planning commissions, and municipal development commission to assure access to appropriate conditions for geothermal energy source development in master plans;
- specifies that geothermal energy system installation is not an alteration for the purposes of local zoning requirements;
- adds geothermal energy devices to the types of renewable energy generation devices that cannot be prohibited in legal instruments related to the sale or transfer of real property;
- creates community geothermal gardens, which are analogous to community solar gardens, and requires qualifying retail utilities to acquire at least one community geothermal garden under their renewable resource acquisition plans;
- requires the Public Utilities Commission to determine the minimum and maximum purchases of electrical output from community geothermal gardens in years 2023 and beyond; and
- requires the Colorado Energy Office to develop consumer education about leases or purchased geothermal installation.

Background

Geothermal energy systems generally transfer heat from the earth to generate electricity or to heat or cool space or water. Geothermal electricity-generating facilities draw steam from underground reservoirs of hot water to rotate a turbine that activates a generator. Geothermal resources used for heating and cooling space and water use wells or buried pipes to transfer heat through either an open-loop or closed-loop system.

Closed-loop geothermal systems circulate a fluid, typically water or an antifreeze solution, through a series of buried pipes. As the fluid passes through the ground, it absorbs heat from the surrounding soil, rock, or ground water. The heated fluid returns to the building where it is used for space or water heating. Once the heat is transferred to the building, the water returns at a lower temperature to the ground loop to repeat the process. This process operates in reverse in cooling mode.

Open-loop geothermal systems use well or surface body water as the heat exchange fluid that circulates through the system and returns to the ground through a well or surface discharge. These systems require a sufficient supply of water. The Colorado State Capitol utilizes an open-loop two well system to heat and cool the building, and is the first state capitol in the country to be cooled with a geothermal system.

State Revenue

Beginning in FY 2022-23, the bill will increase state cash fund revenue from two sources of fees, as described below and shown in Table 2.

Table 2
Fee Impact on SB 22-118

Fee Type	Fund	FY 2022-23	FY 2023-24
Annual Fee	Fixed Utility Fund	\$200,632	\$224,006
Permit Fee	Water Resource Cash Fund	\$42,000	\$42,000
	Total	\$242,632	\$266,006

Fees on regulated utilities. Revenue will increase to the Fixed Utility Fund in DORA from annual fees paid by public utilities. Fee increases will be paid by regulated utilities in proportion to their share of gross intrastate utility revenue to cover the PUC's expenditures and are subject to TABOR.

Fees on geothermal permit applications. To the extent that geothermal permit applications to DWR increase, fee revenue to the Water Resources Cash Fund will increase. Geothermal resources in the state are administered by the State Engineer within the Division of Water Resources (DWR) in the Department of Natural Resources. As authorized by the Geothermal Resources Act, DWR reviews and issues permits for geothermal wells, defined as a well that is constructed for the purpose of exploration, use of a geothermal resource, or reinjection of a geothermal fluid. In calendar years 2020 and 2021, DWR processed almost 90 geothermal permit applications per year, with application fees of \$480 each. Assuming the bill doubles the number of permit applications (an additional 90 permits per year), the bill would result in about \$42,000 in additional revenue. This revenue is subject to TABOR.

State Expenditures

The bill increases state expenditures by \$215,632 and 1.7 FTE in FY 2022-23 and \$224,006 and 2.0 FTE in FY 2023-24. Beginning in FY 2022-23, the bill also creates workload impacts in several state agencies. These costs are detailed in Table 3 and described below.

**Table 3
 State Expenditures under SB 22-118**

Cost Components	FY 2022-23	FY 2023-24
Colorado Energy Office		
Consulting Contract	\$15,000	-
CEO Subtotal	\$15,000	-
Department of Regulatory Agencies		
Personal Services	\$141,391	\$169,669
Operating Expenses	\$2,295	\$2,700
Capital Outlay Costs	\$12,400	-
Centrally Appropriated Costs ¹	\$44,546	\$51,637
FTE – Personal Services	1.7 FTE	2.0 FTE
DORA Subtotal	\$200,632	\$224,006
Total	\$215,632	\$224,006
Total FTE	1.7 FTE	2.0 FTE

¹ Centrally appropriated costs are not included in the bill's appropriation.

Colorado Energy Office. The Colorado Energy Office will require \$15,000 in General Funds to hire a consultant to research and develop basic consumer education materials related to geothermal installations, as the office does not have in-house expertise in geothermal technology and finance. Costs are based on similar contract work and hourly rates paid by the office.

Department of Regulatory Agencies. In FY 2022-23, the Public Utilities Commission (PUC) will promulgate rules specifically related to community geothermal gardens, which will require two rate and financial analysts over a six-month period. Following rulemaking, these two staff persons will support applications from two qualifying retail utilities for amendments to renewable energy standard compliance plans. These amendments will reflect plans to purchase the electricity and renewable energy credits from one or more community geothermal gardens over the period of the plan, in addition to acquiring the minimum and maximum purchases from community geothermal gardens in compliance years 2023 and onward, as determined by the PUC. Staff costs include capital outlay and operating expenses, and reflect a September 1 start date.

Department of Local Affairs. The Division of Property Taxation within the Department of Local Affairs will have an increase in workload to assess community geothermal gardens as public utilities. The division will need to amend existing tax forms for renewable energy properties and develop procedures for assessing community geothermal gardens. The extent of the workload impact is unknown and will depend on the number of community geothermal gardens installed in future tax years. This fiscal note assumes the workload is absorbable, and that DOLA will request resources through the annual budget process once more is known about the number of properties installed.

Department of Public Health and Environment. The Department of Public Health and Environment may have an increase in workload to certify geothermal equipment as pollution control equipment. The Department does not currently have a certification program because they have not received any requests to certify any pollution control equipment. If the bill creates requests to certify geothermal equipment beyond the department's capacity, this fiscal note assumes resources will be requested through the annual budget process.

Department of Natural Resources. To the extent that this bill increases applications for geothermal permits and installer certification, the DWR will have increased workload to process these applications. The DWR may need to amend Geothermal Rules to add additional detail related to community geothermal gardens. This fiscal note assumes this work can be accomplished within the ordinary course of business.

Other Budget Impacts

General Fund reserve. Under current law, an amount equal to 15 percent of General Fund appropriations must be set aside in the General Fund statutory reserve beginning in FY 2022-23. Based on this fiscal note, the bill is expected to increase the amount of General Fund held in reserve by \$2,250 in FY 2022-23, which will decrease the amount of General Fund available for other purposes.

TABOR refunds. The bill is expected to increase the amount of state revenue required to be refunded to taxpayers by the amounts shown in the State Revenue section above. This estimate assumes the December 2021 LCS revenue forecast. A forecast of state revenue subject to TABOR is not available beyond FY 2023-24. Because TABOR refunds are paid from the General Fund, increased cash fund revenue will reduce the amount of General Fund available to spend or save.

Local Government

The bill impacts local governments in several areas, as described below.

Master plans. Beginning in FY 2022-23, local governments may have expenditures related to updating local zoning plans to include methods for assuring access to appropriate conditions for geothermal energy sources.

Fee limits. Limiting the aggregate fees assessed by counties and municipalities on geothermal energy systems may reduce local government revenue. To the extent that the aggregate fee limits are insufficient to cover a local government's actual costs of issuing permits, local general fund or other fund sources may be required to subsidize the full cost of this work. Impacts will vary by local government and depend on current fee structures, geothermal installation activity, and the costs to perform this work. As a result, these local impacts cannot be estimated.

Effective Date

The bill takes effect 90 days following adjournment of the General Assembly sine die, assuming no referendum petition is filed.

State Appropriations

For FY 2022-23, this bill requires the following appropriations:

- \$15,000 from the General Fund to the Colorado Energy Office; and
- \$156,086 and 1.7 FTE from the Fixed Utility Fund to the Department of Regulatory Agencies.

State and Local Government Contacts

Colorado Energy Office
County Assessors
Judicial
Local Affairs
Personnel
Public Health and Environment

Counties
Information Technology
Law
Municipalities
Regulatory Agencies